

IN THE CLAIMS

Upon entry of the present amendment, the status of the claims will be as is shown below. This listing of claims replaces all prior versions and listings of claims in the application:

1. (Previously Presented) An apparatus for driving a full frame transfer type imaging device, comprising:

an accumulating period calculating processor that obtains an accumulating period of said full frame transfer type imaging device, the full frame transfer type imaging device having a light receiving element provided with first, second and third electrodes, the light receiving element and a vertical transfer passage being provided in common in said full frame transfer type imaging device; and

a voltage control processor that controls voltage levels of said first, second and third electrodes during said accumulating period;

said voltage control processor fixing a voltage level of said first electrode and periodically changing a voltage level of said second electrode and a voltage level of said third electrode, in accordance with a length of said accumulating period, such that phases of the voltage levels of the second electrode and third electrode are offset while a voltage level of the first electrode is fixed, so that a charge pumping operation is performed, wherein said voltage control processor shortens a period by which said voltage levels of said second electrode and said third electrode are periodically changed as said accumulating period increases.

2. (Canceled)

3. (Previously Presented) The apparatus of claim 1, wherein said first electrode and said second electrode accumulate an electric charge in said light receiving element and transfer said electric charge through said vertical transfer passage.

4. (Previously Presented) The apparatus of claim 1, wherein said voltage control processor fixes the voltage level of said first electrode at a first value, and periodically changes the voltage levels of said second electrode and said third electrode between said first value and a second value, in accordance with said length of said accumulating period.

5. (Previously Presented) The apparatus of claim 1, wherein said voltage control processor performs said charge pumping operation when said accumulating period is longer than a standard period.

6. (Previously Presented) The apparatus of claim 5, further comprising a temperature sensor that senses a temperature around said imaging device, said voltage control processor changing said standard period in accordance with said sensed temperature.

7. (Canceled)

8. (Previously Presented) The apparatus of claim 1, further comprising a temperature sensor that senses a temperature around said imaging device, said voltage control processor changing a period, by which said voltage levels of said second electrode and said third electrode are periodically changed, in accordance with said sensed temperature.

9. (Currently Amended) An apparatus for driving an imaging device of a full frame transfer type in which a light receiving element and a vertical transfer passage are

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common, said apparatus comprising:

an accumulating period calculating processor that obtains an accumulating period of said full frame transfer type imaging device in which said light receiving element and a said vertical transfer passage are common, said light receiving element being provided with first, second and third electrodes, an electric charge being accumulated in said light receiving element for said accumulating period in accordance with a voltage applied to each of said first, second and third electrodes; and

a voltage control processor that controls voltage levels of said first, second and third electrodes during said accumulating period, said voltage control processor fixing a voltage level of said first electrode and periodically changing a voltage level of said second electrode and a voltage level of said third electrode, in accordance with a length of said accumulating period, such that phases of the voltage levels of the second electrode and third electrode are offset while a voltage level of the first electrode is fixed, so that a charge pumping operation is performed, wherein said voltage control processor shortens a period by which said voltage levels of said second electrode and said third electrode are periodically changed as said accumulating period increases.

10. (Previously Presented) An apparatus for driving a full frame transfer type imaging device, said apparatus comprising:

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an accumulator that accumulates a period of said full frame transfer type imaging device, the full frame transfer type imaging device having a light receiving element with a first electrode, a second electrode and a third electrode, the light receiving element and a vertical transfer passage being provided in common in said full frame transfer type imaging device; and

a voltage controller that controls voltage levels of said first electrode, said second electrode and said third electrode during said accumulating period such that phases of the voltage levels of the second electrode and third electrode are offset while a voltage level of the first electrode is fixed, wherein said accumulating period is inversely related to a period of a charge pumping operation.

11. (Previously Presented) The apparatus of claim 10, wherein said voltage controller performs said charge pumping operation when said accumulating period is longer than a standard period.

12. (Previously Presented) The apparatus of claim 11, further comprising a temperature sensor that senses a temperature around said imaging device, said voltage controller changing said standard period in accordance with said sensed temperature.